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Grain Delivery Issues with Cash Grain Contracts

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Cash contracting is a widely used and commonly available means of reducing price risk in many agricultural commodities. However, production risk still remains, in the form of lost production or loss of quality, which may create difficulty in fulfilling the requirements of the contract. In the case of quality damage, grain may still be deliverable but price discount schedules will apply. Sprout damage in wheat can result in a lower wheat quality grade due to low test weight, increased percent damaged, or both (see U.S. Grain Standards for Wheat, Figure 1).

One example of a discount schedule for grain used in grain contracting is the Southwest Scale of Discounts (see Figure 2). This discount schedule specifies the quantity and/or price adjustment for wheat, corn, and grain sorghum that can be used when the delivered grain falls below the agreed upon contract specifications. The load of grain may be rejected at the buyer's option if moisture, test weight, or total defects are outside agreed upon levels.

Sprout damage can be widespread and have its own specific discount schedule. Sprout damage discounts are often dictated by the ability of the elevator to find a market for the damaged wheat. Following are examples of how discount schedules apply and delivery contracts may be modified. These are only examples of how the process works. See your elevator manager or review the details of your contract for specific information related to your situation. Be aware that discount schedules are subject to change as crop and market conditions change.

A farmer contracts wheat at $5.00 per bushel with the schedule of discounts in Figure 3 to apply. At harvest he delivers a truckload of grain with a net weight of 61,660 pounds, no dockage, 54.2 pound test weight, and 15% sprout damage (no other damage factors).
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In this case, the grain can still be delivered against the contracted total, but the quantity delivered is reduced 1,202 pounds because of moisture and the price is discounted 6 cents for moisture, 20 cents for test weight, and 59 cents for sprout damage (see Table 1). The grain is still deliverable but the final price is $4.15 per bushel instead of $5.00 in the original contract.

This same process would be used for cash grain sales at harvest using the current cash price as the basis of calculation if the delivery elevator were to use the same discount schedule.

In This Issue. . . .
How are grain delivery issues (quality and quantity) handled with forward cash contracts?

In extreme cases, the load may be rejected outright, resulting in the same situation as a production loss. Discussed below are several important considerations when using cash grain contracts and non-delivery of all or some of the obligated production becomes an issue.

Remember, your elevator is in the business of handling grain and they want your bushels. They have other contractual agreements based on the commitment they have with you to receive your grain. Contract modification should be seen as a last resort only after all other options of grain delivery have been explored.

Grain Substitution

As a first option, farmers may be able to buy grain from neighbors or from unpriced grain in the elevator's inventory to fill their contracts. This is more likely to be an alternative when the loss is localized, such as a hail storm, and less likely when the production or quality issue is more widespread, such as drought, freeze, or sprout damage.

Contract Cancellation[1]

When a farmer has a shortfall of production or the grain produced does not meet the minimum quality standards of the contract, some or all of the contract may be cancelled. In this case the farmer is relieved of any delivery obligations and settles any differences in cash.

The cash settlement is usually determined by the difference between the futures price at the time the contract was signed and the futures price at the time the contract is cancelled. The contract is usually cancelled at the same basis as it was at time of signing, plus a cancellation fee to the farmer. The cancellation fee covers costs incurred by the elevator such as commissions, interest on margin calls, and any other administrative expenses. These fees vary from elevator to elevator and my change to reflect market conditions such as volatility and cash grain marketability.

Cancellation can apply to any or all of the contracted amount. A farmer may be able to meet a portion of his or her obligations and only need to cancel a portion of the commitment.

Following are two examples of how contract cancellation works using the change in futures prices to calculate the settlement, one in the case of prices moving higher and the other lower prices.

1. A farmer has a cash forward contract for 20,000 bushels of wheat at $5.00. At the time the contract was written the futures price was $5.75 and the basis (cash minus futures) was -$0.75.

At harvest, the farmer is only able to deliver 10,000 bushels and is given the option to cancel the remaining 10,000 bushels. The current futures price is $5.95 and the basis is now -$0.80.

The farmer's original contract price is $5.00. The current contract settlement price using the original basis is $5.20 ($5.95 minus $0.75). The price difference (original contract price of $5.00 minus current settlement price of $5.20) is $-0.20. The cancellation fee is -$0.20. Cash settlement paid by the farmer for non-delivery is -$0.40 per bushel, the sum of the price difference and the cancellation fee.

At harvest the farmer sells 10,000 bushels at the cash contract price of $5.00 ($50,000.00) and pays the elevator $0.40 per bushel on 10,000 bushels.

Contracted grain sales	$50,000.00 (10,000*$5.00)
Contract settlement	-$4,000.00 (10,000*-$0.40)
Net grain sales	$46,000.00

2. A farmer has a cash forward contract for 20,000 bushels of wheat at $5.00. At the time the contract was written the futures price was $5.75 and the basis (cash minus futures) was -$0.75.

At harvest, the farmer is only able to deliver 10,000 bushels and is given the option to cancel the remaining 10,000 bushels. The current futures price is $5.25 and the basis is now -$0.80.

The farmer's original contract price is $5.00. The current contract settlement price using the original basis is $4.50 ($5.25 minus $0.75). The price difference (original contract price of $5.00 minus current settlement price of $4.50) is $+0.50. The cancellation fee is -$0.20. In this case, cash settlement received by the farmer is +$0.30 per bushel, the sum of the price difference and the cancellation fee.

At harvest the farmer sells 10,000 bushels at the cash contract price of $5.00 ($50,000.00) and the elevator pays the farmer $0.30 per bushel on 10,000 bushels.

Contracted grain sales	$50,000.00 (10,000*$5.00)
Contract settlement	$3,000.00 (10,000*$0.30)
Net grain sales	$53,000.00

Roll Forward

The option to roll a contract forward moves the obligation from one crop year to the next. In this case the farmer's contract price is adjusted by the difference in the spread between the current new crop futures price and next year's new crop futures price. If next year's price is lower than the current new crop future price, the contract price will be reduced. A higher price spread would result in a higher contract price. In most cases, the basis of the contract that is rolled forward is the same as the original basis. However, some years do experience considerable basis variability, so the basis may be adjusted to reflect this as well.

In the roll forward option, no money changes hands. All gains and losses and transaction fees are reflected in the new contract price. As in the case of contract

[1] For contract cancellation and roll forward non-delivery settlement procedures, see *The Art of Grain Merchandising* by Sherry Norton and Don White, White Commercial Corporation. Stipes Publishing Company, Chicago, IL, 2010.

cancellation, roll forward can be applied to any or all of the original contract.

Following are two examples of how roll forward works using the spread between the current new crop futures price and next year's new crop price to calculate the revised contract price, one in the case of a positive price spread and the other a negative price spread.

1. A farmer has a cash forward contract for 20,000 bushels of wheat at $5.00. At the time the contract was written the futures price was $5.75 and the basis (cash minus futures) was -$0.75.

At harvest, the farmer is only able to deliver 10,000 bushels and is given the option to roll forward the remaining 10,000 bushels. The current new crop futures price is $5.50 with a -$0.80 basis; the next year's new crop futures price is $5.95.

The current spread between new crop futures contracts is +$0.45 ($5.95 minus $5.50). This spread and the elevator's roll forward fee (-$0.20) are added to the original contract price. The contract price for the 10,000 bushels to be delivered next year is set at $5.25 ($5.00+$0.45-$0.20).

At harvest the farmer sells 10,000 bushels at the cash contract price of $5.00 ($50,000.00) and has a cash grain contract for next year on 10,000 bushels at $5.25.

2. A farmer has a cash forward contract for 20,000 bushels of wheat at $5.00. At the time the contract was written the futures price was $5.75 and the basis (cash minus futures) was -$0.75.

At harvest, the farmer is only able to deliver 10,000 bushels and is given the option to roll forward the remaining 10,000 bushels. The current new crop futures price is $5.50 with a -$0.80 basis; the next year's new crop futures price is $5.25.

The current spread between new crop futures contracts is -$0.25 ($5.25 minus $5.50). This spread and the elevator's roll forward fee (-$0.20) are added to the original contract price. The contract price for the 10,000 bushels to be delivered next year is set at $4.55 ($5.00-$0.25-$0.20).

At harvest the farmer sells 10,000 bushels at the cash contract price of $5.00 ($50,000.00) and has a cash grain contract for next year on 10,000 bushels at $4.55.

Communication

Cash grain contracts do not eliminate every area of risk--production risk remains. Good communication on the part of all parties is vital if cash grain contracting is to be successful. Both buyer and seller need to understand the details of the contract before it is signed, the kind of risk it is designed to control and the areas of risk that remain after the contract is signed. Know how your net price will be determined and what that price might be under extreme market conditions.

Open communication throughout the life of the contract is important. Problems with production quantity or quality create marketing difficulty for both buyers and sellers. Contract delivery problems need to be identified and discussed as early as possible so that management alternatives can be considered.

As long as all parties in the agreement do their best to comply with the terms of the contract and fulfill their obligations, cash forward contracting of grain can be a viable element of a business plan and an effective tool for price risk management.

Table 1. Wheat Dockage Calculations

Factor	Sample Report	Adjustment	Discount
Dockage	0.0%	none	none
Moisture	14.8%	1.3% over 13.5%	1.3%*1.5=1.95% 61,660 lbs*1.95%=1,202 lbs Pay weight = 61,660-1,202=60,458 or 1,007.63 bu 14.8 to 15.0=6 cents
Test Weight	54.2 lbs	5.8 lbs under 60.0 lbs	55.5 to 55.0 = 12 54.9 to 54.5=4 54.4 to 54.0=4 12+4+4=20 cents
Sprout Damage	15%	5% over 10%	14.1 to 15.0=59 cents
Total			6+20+59=85 cents
Payment			1,007.63 bu*($5.00-$0.85)=$4,181.66

Figure 1. U.S. Grade Standards for Wheat

Grades and Grade Requirements

§ 810.2204 Grades and grade requirements for wheat.

(a) Grades and grade requirements for all classes of wheat, except Mixed wheat.

Grading factors	Grades U.S. Nos.				
	1	2	3	4	5
Minimum pound limits of:					
Test weight per bushel					
Hard Red Spring wheat or White Club wheat	58. 0	57.0	55.0	53.0	50.0
All other classes and subclasses	60.0	58.0	56.0	54.0	51.0
Maximum percent limits of:					
Defects:					
Damaged kernels					
Heat (part of total)	0.2	0.2	0.5	1.0	3.0
Total	2.0	4.0	7.0	10.0	15.0
Foreign material	0.4	0.7	1.3	3.0	5.0
Shrunken and broken kernels	3.0	5.0	8.0	12.0	20.0
Total [1/]	3.0	5.0	8.0	12.0	20.0
Wheat of other classes: [2/]					
Contrasting classes	1.0	2.0	3.0	10.0	10.0
Total [3/]	3.0	5.0	10.0	10.0	10.0
Stones	0.1	0.1	0.1	0.1	0.1
Maximum count limits of:					
Other material in one kilogram:					
Animal filth	1	1	1	1	1
Castor beans	1	1	1	1	1
Crotalaria seeds	2	2	2	2	2
Glass	0	0	0	0	0
Stones	3	3	3	3	3
Unknown foreign substances	3	3	3	3	3
Total [4/]	4	4	4	4	4
Insect-damaged kernels in 100 grams	31	31	31	31	31

U.S. Sample grade is Wheat that:
(a) Does not meet the requirements for U.S. Nos. 1, 2, 3, 4, or 5; or
(b) Has a musty, sour, or commercially objectionable foreign odor (except smut or garlic odor) or
(c) Is heating or of distinctly low quality.

1/ Includes damaged kernels (total), foreign material, shrunken and broken kernels.
2/ Unclassed wheat of any grade may contain not more than 10.0 percent of wheat of other classes.
3/ Includes contrasting classes.
4/ Includes any combination of animal filth, castor beans, crotalaria seeds, glass, stones, or unknown foreign substance.

Source: USDA, Grain Inspection, Packers & Stockyards Administration
http://www.gipsa.usda.gov/fgis/standards/810wheat.pdf

Figure 2. Southwest Scale of Discounts – Wheat

SOUTHWEST SCALE OF WHEAT DISCOUNTS
WHEAT
Effective Date – October 1,2013

Trading Basis No. 2 Wheat per Hundredweight

Discounts

Dockage	Dockage deductions are by weight equal to percentage dockage. Deductions shall be taken from the net weight before other discounts are applied.
Moisture	Moisture deductions are by weight equal to 1.5 times percentage moisture above 13.5%. Deductions for moisture shall be taken from the net weight before other discounts are applied. Buyer's option to reject above 14.0% moisture.
Test Weight	4 cents for each 1 lb. or fraction thereof from 57.9 lbs. to 57.0 lbs.; 8 cents for each 1 lb. or fraction thereof from 56.9 lbs. to 56.0 lbs.; 16 cents for each 1 lb. or fraction thereof below 56.0 lbs. Buyer's option to reject below 58.0 lbs. test weight.
Total Defects	4 cents for 1% or fraction thereof from 5.1% to 8.0%; 8 cents for 1% or fraction thereof from 8.1% to 12.0%; 16 cents for each 1 % or fraction thereof above 12.0%. Buyer's option to reject above 7.0% T.D.

Heating*	20 cents	Infested*	20 cents
Musty*	20 cents	DLQ*[1]	20 cents
Sour*	20 cents	COFO*[2]	20 cents

*If grain is heating, musty, sour, infested, DLQ, COFO, or grades "sample grade", buyer has the option of applying discounts or returning grain to seller at seller's expense.

*All line items (heating, musty, sour, infested, DLQ or COFO) are only discounted if the item appears on the FGIS[3] and submit grade certificate.

If discounts exceed ranges in the scale – as defined by official U.S. Grain Standards – buyer has option, upon notifying seller, of negotiating additional discounts or returning grain at seller's expense.

Source: Texas Cattle Feeders Association
http://www.tcfa.org/assets/media/pdfs/sw_scale_of_grain_discounts.pdf

Figure 3. Sample Elevator Grain Dockage Schedule, cents per bushel

DOCKAGE: Any dockage above 0% is to be deducted from the gross weight by that amount and not paid for.

0.0 - 1.0	$0.00	3.1 - 3.5	$0.08
1.1 - 2.0	$0.02	3.6 - 4.0	$0.10
2.1 - 2.5	$0.04	4.1 - 4.5	$0.12
2.6 - 3.0	$0.06	4.6 - 5.0	$0.14
		Plus $0.02 each 1/2% over 5.0	
		subject to rejection above 10.0%	

MOISTURE			
13.6 - 13.7	$0.01	14.8 - 15.0	$0.06
13.8 - 14.0	$0.02	15.1 - 15.2	$0.08
14.1 - 14.2	$0.03	15.3 - 15.5	$0.10
14.3 - 14.5	$0.04	15.6 - 15.7	$0.12
14.6 - 14.7	$0.05	15.8 - 16.0	$0.14
		PLUS $.03 EA ¼% OVER 16.0	
		subject to rejection above 16%	

TEST WEIGHT			
59.9 - 59.0	$0.01	56.9 - 56.5	$0.06
58.9 - 58.0	$0.02	56.4 - 56.0	$0.08
57.9 - 57.5	$0.03	55.9 - 55.5	$0.10
57.4 - 57.0	$0.04	55.4 - 55.0	$0.12
		Plus $0.04 Each 1/2 lb below 55.0	

FOREIGN MATERIAL			
0.5 - 0.7	$0.005	2.1 - 2.5	$0.07
0.8 - 1.0	$0.03	2.6 - 3.0	$0.08
1.1 - 1.3	$0.05	3.1 - 4.0	$0.10
1.4 - 2.0	$0.06	4.1 - 5.0	$0.12
PLUS $.03 EA 1% OVER 5.0			

SHRUKEN & BROKEN			
3.1 - 4.0	$0.005	7.1 - 8.0	$0.05
4.1 - 5.0	$0.01	8.1 - 9.0	$0.06
5.1 - 6.0	$0.03	9.1 - 10.0	$0.07
6.1 - 7.0	$0.04		
PLUS $.01 EA 1% OVER 10.0			

TOTAL DEFECTS**			
3.1 - 4.0	$0.005	7.1 - 8.0	$0.07
4.1 - 5.0	$0.01	8.1 - 8.0	$0.09
5.1 - 6.0	$0.03	9.1 - 10.0	$0.11
6.1 - 7.0	$0.05		
(OR GREATER OF FM/DMG/S&B)		**PLUS 2¢ EA 1% OVER 10.0**	
		subject to rejection above 15.0%	

HEAT DAMAGE			
0.3	$0.01	0.7	$0.05
0.4	$0.02	0.8	$0.06
0.5	$0.03	0.9	$0.07
0.6	$0.04	1.0	$0.08
		subject to rejection above 1.0	

IF ACCEPTED			
MUSTY	$0.10	SOUR	$0.10
LT SMUT	$0.10	SMUT	$0.20
INFESTED	$0.10	STONES	Negotiable
COFO	$0.10	VOMITOXIN	subject to rejection above 2.0 ppm

SPROUT and DAMAGE

TOTAL DAMAGE		TTL with Sprout			TTL with Sprout
2.1 - 3.0	$0.01	$0.07	6.1 - 7.0	$0.07	$0.13
3.1 - 4.0	$0.02	$0.08	7.1 - 8.0	$0.09	$0.15
4.1 - 5.0	$0.03	$0.09	8.1 - 9.0	$0.11	$0.17
5.1 - 6.0	$0.05	$0.11	9.1 - 10.0	$0.13	$0.19
PLUS $.03 EA 1% OVER 10.0			Damage with Sprout : $0.06 each 1% Sprout		
		subject to rejection above 20.0%			

Sprout Damage above 10			
10.1 - 11.0	$0.27	13.1 - 14.0	$0.51
11.1 - 12.0	$0.35	14.1 - 15.0	$0.59
12.1 - 13.0	$0.43	15.1 - 20.0	$1.00
		20.1 - 30.0	$2.00
		subject to rejection above 20.0%	

IDK			
6	$0.01	11	$0.06
7	$0.02	12	$0.07
8	$0.03	13	$0.08
9	$0.04	14	$0.09
10	$0.05	15	$0.10
PLUS 2¢ EA 1 PT TO 31			
subject to rejection above 15			

WOCL			
3.1 - 4.0	$0.01	6.1 - 7.0	$0.04
4.1 - 5.0	$0.02	7.1 - 8.0	$0.05
5.1 - 6.0	$0.03		
PLUS $.02 EA 1% OVER 8.0			
subject to rejection above 8			

Revised 05/14/2015

******ALL DISCOUNTS SUBJECT TO CHANGE WITHOUT NOTICE******

Other Resources

Hall, Charles and Michael Langemeier. “Contracts as a Risk Management Tool”, Texas A&M AgriLife Extension Risk Management Curriculum Guide, L-5294, 3-99. Available online at http://agecoext.tamu.edu/resources/library/risk-management-curriculum-guide/.

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Wisner, Robert, Mark Welch, and Dean McCorkle. “Considerations When Using Grain Contracts”, Texas A&M AgriLife Extension Risk Management Curriculum Guide, RM2-38.0, 12-09. Available online at http://agecoext.tamu.edu/resources/library/risk-management-curriculum-guide/.